

App. No.: 09/681430  
Filed: April 3, 2001

Page 2 of 6

### IN THE CLAIMS

1. (Currently Amended) A DC rotating electrical machine comprised of an outer housing forming a stator of said DC rotating electrical machine, said outer housing being comprised of a generally cylindrical center section and affixed first and second end closures, a rotor journaled within said outer housing and having an end portion extending through said first end closure for driving connection to a related rotating machine, said related rotating machine comprising a related machine housing journaling a related machine shaft driven by said rotor end portion, said first end closure having an axially extending wall portion extending beyond said first end closure and forming a cavity in which a substantial portion of said related rotating machine is contained.
2. A DC rotating electrical machine as set forth in claim 1 wherein a third end closure is affixed in closing relation to the cavity of the first end closure for containing the related rotating machine within the cavity of said first end closure.
3. A DC rotating electrical machine as set forth in claim 1 wherein the first and second end closures are axially spaced from each other and the second end closure is integrally formed with an axially extending cylindrical center section.
4. A DC rotating electrical machine as set forth in claim 3 wherein the first end closure is in abutting relation to the axially extending cylindrical center section.
5. A DC rotating electrical machine as set forth in claim 3 wherein the first end closure is axially spaced from the axially extending cylindrical center section.
6. A DC rotating electrical machine as set forth in claim 5 wherein the DC rotating electrical machine includes a stator made up a plurality of field coils.
7. A DC rotating electrical machine as set forth in claim 6 wherein the plurality of field coils are wound around a laminated core.
8. A DC rotating electrical machine as set forth in claim 7 wherein a portion of the laminated core is exposed between the first and second end closures.
9. A DC rotating electrical machine as set forth in claim 1 wherein the DC rotating electrical machine is brushless.

App. No.: 09/681430  
Filed: April 3, 2001

Page 3 of 6

10. A DC rotating electrical machine as set forth in claim 9 further including a sensor contained within the outer housing for sensing the rotational position of said rotor.
11. A DC rotating electrical machine as set forth in claim 10 wherein the DC rotating electrical machine includes a stator made up a plurality of field coils.
12. A DC rotating electrical machine as set forth in claim 11 wherein a controller responsive to the output of the sensor switches the polarity of the field coils.
13. A DC rotating electrical machine as set forth in claim 12 wherein the controller is mounted in the interior of the DC rotating electrical machine.
14. A DC rotating electrical machine as set forth in claim 13 wherein the controller is mounted axially between the first and second end closures.
15. A DC rotating electrical machine as set forth in claim 14 wherein the controller is mounted in a cylindrical member interposed between the first and second end closures.
16. A DC rotating electrical machine as set forth in claim 12 wherein the controller is mounted on the exterior of the DC rotating electrical machine.
17. A DC rotating electrical machine as set forth in claim 1 wherein the second end closure carries a cylindrical post extending into an cylindrical opening in the rotor for journaling said rotor within the outer housing.
18. A DC rotating electrical machine as set forth in claim 17 wherein the cylindrical post extends a substantial distance axially into the rotor.
19. A DC rotating electrical machine as set forth in claim 18 wherein the cylindrical post engages a bearing associated with the rotor.
20. A DC rotating electrical machine as set forth in claim 19 wherein the bearing associated with the rotor comprises an oil impregnated, sleeve type bearing.
21. A DC rotating electrical machine as set forth in claim 19 wherein the bearing associated with the rotor comprises an anti friction bearing.
22. A DC rotating electrical machine as set forth in claim 19 wherein the cylindrical post is detachably connected to the second end closure.
23. A DC rotating electrical machine as set forth in claim 22 wherein the bearing associated with the rotor comprises an oil impregnated, sleeve type bearing.
24. A DC rotating electrical machine as set forth in claim 22 wherein the bearing associated with the rotor comprises an anti friction bearing.

App. No.: 09/681430  
Filed: April 3, 2001

Page 4 of 6

25. A DC rotating electrical machine as set forth in claim 21 wherein the cylindrical post is integrally formed with the second end closure.
26. A DC rotating electrical machine as set forth in claim 1 in combination with a hydraulic powered steering booster and the DC rotating electrical machine comprises a motor and the associated rotating machine is a hydraulic pump.
27. A DC rotating electrical machine comprised of an outer housing forming a stator of said DC rotating electrical machine, said outer housing being comprised of a generally cylindrical center section closed at opposite ends by first and second end closures, a rotor within said outer housing and extending through said first end closures for driving connection to a related rotating machine, said second end closure carrying a cylindrical post extending into an cylindrical opening in said rotor for journalling said rotor within said outer housing
28. A DC rotating electrical machine as set forth in claim 27 wherein the cylindrical post extends a substantial distance axially into the rotor.
29. A DC rotating electrical machine as set forth in claim 28 wherein the cylindrical post engages a bearing associated with the rotor.
30. A DC rotating electrical machine as set forth in claim 29 wherein the bearing associated with the rotor comprises an oil impregnated, sleeve type bearing.
31. A DC rotating electrical machine as set forth in claim 29 wherein the bearing associated with the rotor comprises an anti friction bearing.
32. A DC rotating electrical machine as set forth in claim 27 wherein the cylindrical post is detachably connected to the second end closure.
33. A DC rotating electrical machine as set forth in claim 32 wherein the bearing associated with the rotor comprises an oil impregnated, sleeve type bearing.
34. A DC rotating electrical machine as set forth in claim 32 wherein the bearing associated with the rotor comprises an anti friction bearing.
35. A DC rotating electrical machine as set forth in claim 27 wherein the cylindrical post is integrally formed with the second end closure.